AF

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Applicant:	§	
Eran Makover	§	
Serial No.: 10/083,588	§	
Filed: February 27, 2002	§	Group Art Unit: 1725
For: An Improved Wire Bonding Capillary	§	Attorney Docket: 2069/3
Examiner: JOHNATHAN J. JHONSON	§	

TRANSMITTAL OF APPEAL BRIEF

Commissioner of Patents and Trademarks
Alexandria, VA 22313

Dear Sir:

Transmitted herewith in triplicate is a corrected APPEAL BRIEF in this application with respect to the Notice of Appeal filed on May 23, 2005.

The fee for Appeal Brief was submitted upon filing of the Appeal Brief on July 22, 2005. If however, this fee was not charged to our account, authorization is hereby granted to charge Account No. 06-2140 any additional fees required. A duplicate copy of this transmittal letter is attached.

Respectfully submitted,

Mark M. Friedman
Attorney for Applicant
Registration No. 33,883

Date: October 12, 2005

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Applicant:	§	
	§	
ERAN MAKOVER	§	
	§	
Serial No.: 10/083,588	§	
	§	
Filed: February 27, 2002	§	Group Art Unit: 1725
	§	
For: AN IMPROVED WIRE BONDING CAPILLARY	§	Attorney Docket: 2069/3
	§	
Examiner: Jonathan J,. Johnson	§	

Commissioner of Patents and Trademarks
Washington, DC 20231
ATTENTION: Board of Patent Appeals and Interferences

APPELLANT'S BRIEF

Dear Sir:

This is in furtherance of the Notice of Appeal filed in this case on May 23, 2005.

The fees required under § 1.17(f) and any required petition for extension of time for filing this brief and fees therefor are dealt with in the accompanying TRANSMITTAL OF APPEAL BRIEF.

This brief is transmitted in triplicate.

This brief contains these items under the following headings and in the order set forth below:

I. REAL PARTY IN INTEREST

II. RELATED APPEALS AND INTERFERENCES

III. STATUS OF CLAIMS

IV. STATUS OF AMENDMENTS

V. SUMMARY OF INVENTION

VI. ISSUES

VII. ARGUMENTS

_X_ ARGUMENT: VIIIA REJECTIONS UNDER 35 U.S.C. 103

VIII. APPENDIX OF CLAIMS INVOLVED IN THE APPEAL

IX. APPENDIX OF EVIDENCE

X. APPENDIX OF RELATED PROCEEDINGS

I. REAL PARTY IN INTEREST

The real party in interest in this case is:

Kessem Trade Company Ltd.

12 Griva Digeni Avenue

Alexander House, Office 45

Larnaca

CYPRUS

II. RELATED APPEALS AND INTERFERENCES

The final rejection of US 10/740,634 also is being appealed.

III. STATUS OF CLAIMS

A. TOTAL NUMBER OF CLAIMS IN APPLICATION

There are four claims in the application

B. STATUS OF ALL THE CLAIMS

1. Claims cancelled: 1 and 2
2. Claims withdrawn from consideration but not cancelled: NONE
3. Claims pending: 3 and 4
4. Claims allowed: NONE
5. Claims rejected: 3 and 4

C. CLAIMS ON APPEAL

The claims on appeal are claims 3 and 4.

IV. STATUS OF AMENDMENTS

Claim 3 was amended in a Request for Continued Examination dated May 12, 2004. Claim 4 was amended in an Election dated February 16, 2003.

V. SUMMARY OF INVENTION

The claims before the Examiner are directed toward a method of preparing a wire bonding capillary **4**. The entire pressing face **4b** of the tip of the capillary **4** is coated with a layer **41** of polymeric material that includes a thermoplastic polymer such as poly-p-xylylene ("parylene") (page 6 line 24).

VI. ISSUES

The issue presented for review is whether claims 3 and 4 are unpatentable over Gilding, US Patent No. 4,049,506 (henceforth, "Gilding '506") in view of Evans, US Patent No. 4,950,365 (henceforth, "Evans '365").

VII. ARGUMENTS

REJECTIONS UNDER 35 U.S.C. 103

Briefly, Gilding '506 teaches coating the tip **13** of a wire bonding capillary **11** with a thin layer **16** of osmium, ruthenium or their alloys. Evans '365 teaches coating metal tools such as "screwdriver blades, drill bits, saw blades, wrenches, pliers, socket sets, screws, hammer heads, hinges, nut drivers, shears and the like" (column 4 lines 48-50) with a thin layer of a uniform conformal polymeric material such as parylene.

The Examiner proposed that it therefore would have been obvious to coat the tip of a wire bonding capillary with parylene. Applicant respectfully denies this inference, for two reasons.

First, one ordinarily skilled in the art would lack a motivation to combine the two references. Evans '365 teaches that coating a substrate with parylene renders the substrate "wear-resistant, decorative and corrosion free" (column 3 line 61). But these are not the properties that the present invention is intended to impart to a wire bonding capillary. The problem solved by the present invention is the buildup of contaminants deposited on the surface of the tip and bore of a wire bonding capillary, not wear of the wire bonding capillary, unaesthetic appearance of the wire bonding capillary or corrosion of the wire bonding capillary.

Second, even if a motivation were to exist to combine the two references, this still is insufficient to render the present invention obvious. One ordinarily skilled in the art also would have to have a reasonable expectation of success. *In re* Dow Chem. Co., 837 F.2d 469, 473 (Fed. Cir. 1988): "The consistent criterion for determination of obviousness is whether the prior art would have suggested to one of ordinary skill in the art that this process should be carried out and would have a reasonable likelihood of success, viewed in the light of the prior art." (emphasis added) In the

present case, one ordinarily skilled in the art would not have a reasonable expectation of success, for the following reasons:

The critical passage of Evans '365 is the one in which Evans '365 explains the mechanism by which parylene protects metal surfaces from corrosion despite the fact that a

> ...thin parylene coating is quite soft and is easily worn off of any substrate that is subject to wear or moderate physical handling. (column 3 lines 41-43)

The critical passage is column 4 lines 15-22:

> The outer parylene layer is almost immediately worn off of the surface of the substrate, exposing the hard coated metal surface. However, the conformal quality of the parylene coating is so efficient that the areas of increased permeability associated with the coating defects--which invariably exist in the hard coated layer--are "filled" with the polymeric coating. (emphasis added)

In other words, the parylene that is effective at inhibiting corrosion is the residual parylene that remains in cracks in the metal surface after the rest of the parylene has been worn off.

Now, as noted above, the object of the present invention is to inhibit the buildup of contaminant deposits on the surface of the tip and bore of a wire bonding capillary. The nature of these deposits is described in the specification on page 5 lines 27-29:

> Part of these depositions is smeared over the surface of the bore of the capillary during the travel of the bonding wire in it. Other part of these contaminants adheres to the surface of the face of the tip of capillary. (emphasis added)

and on page 6 lines 3-4 (as amended):

> ...a solid buffer layer, separating between the hard alumina pressing surface of the face of the capillary tip and the wire. (emphasis added)

One ordinarily skilled in the art, being aware of the nature of the deposits on the tip of a used wire bonding capillary, as described above, and being taught by

Evans that the effective portion of a parylene layer is the portion that remains in the cracks of a protected surface after the rest of the parylene has been worn off the surface, would have concluded that parylene, although effective in preventing corrosion of a metal substrate, would be totally ineffective in preventing contaminant buildup on the surface of the tip of a wire bonding capillary. Therefore, the present invention, as recited in claims 3 and 4, is in fact patentable over the combined teachings of Gilding and Evans.

Respectfully submitted,

Mark M. Friedman
Attorney for Applicant
Registration No. 33,883

Date: October 11, 2005

VIII. APPENDIX OF CLAIMS INVOLVED IN THE APPEAL

The text of the claims on appeal is:

3. A method for preparing a wire bonding capillary comprising the steps of:

(a) providing a wire bonding capillary for pressing a metal wire against an electrode pad comprising a capillary tip having a pressing face; and

(b) coating all of said pressing face of said capillary tip with a layer of polymeric material, said polymeric material including at least one thermoplastic polymer.

4. The method as in claim 3 wherein said thermoplastic polymer is poly-p-xylylene.

IX. APPENDIX OF EVIDENCE

NONE

X. APPENDIX OF RELATED PROCEEDINGS

The final rejection of US 10/740,634, a divisional application of US 10/083,588, also is under appeal.